



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2012-1222; Directorate Identifier 2012-NM-134-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede an existing airworthiness directive (AD) that applies to certain Bombardier, Inc. Model DHC-8-400 series airplanes. The existing AD currently requires a free-play check for excessive free-play of the shaft swaged bearing installed in the tailstock end of each elevator power control unit (PCU), and replacing any PCU on which the bearing exceeds allowable limits with a serviceable PCU. Since we issued that AD, we have determined that additional airplanes are affected by the identified unsafe condition. This proposed AD would add airplanes to the applicability in the existing AD. We are proposing this AD to detect and correct excessive freeplay of the swaged bearings, which could lead to excessive airframe vibrations and difficulties in pitch control, and consequent loss of controllability of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the

regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7318; fax (516) 794-5531.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-1222; Directorate Identifier 2012-NM-134-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## **Discussion**

On June 14, 2011, we issued AD 2011-13-08, Amendment 39-16731 (76 FR 37253, June 27, 2011). That AD required actions intended to address an unsafe condition on Bombardier, Inc. Model DHC-8-400 series airplanes.

Since we issued the existing AD (76 FR 37253, June 27, 2011), we have determined that additional airplanes are affected by the identified unsafe condition. Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2010-28R1, dated June 12, 2012 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

Several reports have been received on the elevator power control units (PCUs) where the shaft (tailstock) swaged bearing liners had shown a higher than normal rate of wear. Investigation revealed that the excessive wear was due to the paint contamination between the bearing roller and bearing liner. The bearing paint contamination is known to be abrasive and could seize the bearing.

This condition, if not corrected, could lead to excessive airframe vibrations and difficulties in aircraft pitch control.

This [TCCA] directive mandates a free-play check of the shaft swaged bearing installed in the elevator PCU tailstock end and replacement of the shaft swaged bearings if excessive free-play is found.

This [TCCA] AD is revised to amend the applicability for DHC-8 Series 400 aeroplanes.

The unsafe condition is loss of controllability of the airplane. You may obtain further information by examining the MCAI in the AD docket.

### **Relevant Service Information**

Bombardier Inc. has issued Service Bulletin 84-27-52, Revision A, dated March 5, 2012. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

### **FAA's Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

### **Costs of Compliance**

Based on the service information, we estimate that this proposed AD would affect about 81 products of U.S. registry.

The actions that are required by AD 2011-13-08, Amendment 39-16731 (76 FR 37253, June 27, 2011), and retained in this proposed AD take about 3 work-hours per product, at an average labor rate of \$85 per work hour. Based on these figures, the estimated cost of the currently required actions is \$255 per product.

We estimate that it would take about 3 work-hours per product to comply with the new basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of the proposed AD on U.S. operators for the added airplanes to be \$255 per product.

In addition, we estimate that any necessary follow-on actions would take about 5 work-hours and require parts costing \$33, for a cost of \$458 per product. We have no way of determining the number of products that may need these actions.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing airworthiness directive AD 2011-13-08, Amendment 39-16731 (76 FR 37253, June 27, 2011), and adding the following new AD:

**Bombardier, Inc.:** Docket No. FAA-2012-1222; Directorate Identifier 2012-NM-134-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD supersedes AD 2011-13-08, Amendment 39-16731 (76 FR 37253, June 27, 2011).

**(c) Applicability**

This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes; certificated in any category; having serial numbers (S/Ns) 4001 through 4334 inclusive, and 4336.

**(d) Subject**

Air Transport Association (ATA) of America Code 27: Flight controls.

**(e) Reason**

This AD was prompted by reports of replacement of several elevator power control units (PCUs) due to worn swaged bearings located in the elevator PCU tailstock. We are issuing this AD to detect and correct excessive freeplay of the swaged bearings, which could lead to excessive airframe vibrations and difficulties in pitch control, and consequent loss of controllability of the airplane.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.



**(g) Retained Free-Play Check with Revised Service Information**

This paragraph restates the requirements of paragraph (g) of AD 2011-13-08, Amendment 39-16731 (76 FR 37253, June 27, 2011), with revised service information. For airplanes identified in paragraph (c) of this AD, except airplanes having S/N 4305 through 4334 inclusive, and 4336: At the applicable time specified in paragraphs (g)(1) and (g)(2) of this AD, perform a free-play check for any shaft swaged bearing having part number (P/N) MS14103-7 that is installed in the tailstock end of each elevator PCU (three PCUs per elevator surface) having P/Ns 390600-1007 and 390600-1009, in accordance with paragraph 3.B., Part A, of Bombardier Service Bulletin 84-27-52, dated May 25, 2010; or Revision A, dated March 5, 2012. As of the effective date of this AD, only Bombardier Service Bulletin 84-27-52, Revision A, dated March 5, 2012, may be used to accomplish the actions required by this paragraph.

(1) For airplanes that have accumulated 8,000 or more total flight hours as of August 1, 2011 (the effective date of AD 2011-13-08, Amendment 39-16731 (76 FR 37253, June 27, 2011)): Within 2,000 flight hours after August 1, 2011 (the effective date of AD 2011-13-08).

(2) For airplanes that have accumulated less than 8,000 total flight hours as of August 1, 2011 (the effective date of AD 2011-13-08, Amendment 39-16731 (76 FR 37253, June 27, 2011)): Within 6,000 flight hours after August 1, 2011 (the effective date of AD 2011-13-08), or before the accumulation of 10,000 total flight hours, whichever occurs first.

**(h) Retained Follow-on Action**

This paragraph restates the requirements of paragraph (h) of AD 2011-13-08, Amendment 39-16731 (76 FR 37253, June 27, 2011), with revised service information. If, during the check required by paragraph (g) of this AD, the bearing free-play is within the limits specified in Bombardier Service Bulletin 84-27-52, dated May 25, 2010, or Revision A, dated March 5, 2012; no further action is required by this AD. As of the effective date of this AD, only Bombardier Service Bulletin 84-27-52, Revision A, dated March 5, 2012, may be used to accomplish the actions required by this paragraph.

**(i) Retained Corrective Actions**

This paragraph restates the requirements of paragraph (i) of AD 2011-13-08, Amendment 39-16731 (76 FR 37253, June 27, 2011), with revised service information. If, during the check required by paragraph (g) of this AD, the bearing free-play exceeds the limits specified in Bombardier Service Bulletin 84-27-52, dated May 25, 2010; or Revision A, dated March 5, 2012: Before further flight, replace the elevator PCU with a serviceable one, in accordance with paragraph 3.B., Part B, of Bombardier Service Bulletin 84-27-52, dated May 25, 2010; or Revision A, dated March 5, 2012. As of the effective date of this AD, only Bombardier Service Bulletin 84-27-52, Revision A, dated March 5, 2012, may be used to accomplish the actions required by this paragraph.

**(j) New Requirements**

For airplanes having S/N 4305 through 4334 inclusive, and 4336: At the applicable time specified in paragraphs (j)(1) and (j)(2) of this AD, perform a free-play

check for any shaft swaged bearing having P/N MS14103-7 that is installed in the tailstock end of each elevator PCU (three PCUs per elevator surface), having P/Ns 390600-1007 and 390600-1009, in accordance with paragraph 3.B., Part A, of Bombardier Service Bulletin 84-27-52, Revision A, dated March 5, 2012.

(1) For airplanes that have accumulated 8,000 or more total flight hours as of the effective date of this AD: Within 2,000 flight hours after the effective date of this AD.

(2) For airplanes that have accumulated less than 8,000 total flight hours as of the effective date of this AD: Within 6,000 flight hours after the effective date of this AD, or before the accumulation of 10,000 total flight hours, whichever occurs first.

**(k) Corrective Actions**

During the check required by paragraph (j) of this AD, if the bearing free-play is found to exceed the limits specified in Bombardier Service Bulletin 84-27-52, Revision A, dated March 5, 2012: Before further flight, replace the elevator PCU with a serviceable one, in accordance with paragraph 3.B., Part B, of Bombardier Service Bulletin 84-27-52, Revision A, dated March 5, 2012.

**(l) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the

ACO, send it to Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7300; fax (516) 794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(m) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2010-28R1, dated June 12, 2012, and the service information specified in paragraphs (l)(1)(i) and (l)(1)(ii) of this AD, for related information.

(i) Bombardier Service Bulletin 84-27-52, dated May 25, 2010.

(ii) Bombardier Service Bulletin 87-27-52, Revision A, dated March 5, 2012.

(2) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on November 21, 2012.

Ali Bahrami,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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